

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.-12. (Canceled)

13. (New) A transmission device comprising:

a redundant bit addition unit for adding a redundant bit of one bit to each of specific bits to be protected to generate coded data, the specific bits being selected out of supplied data; and

a modulation unit for generating a modulation wave signal by modulating symbol data with 4-value FSK in accordance to a Gray code sequence, the symbol data being obtained as a unit of 2 bits consisting of each bit and its redundant bit for the specific bits to be protected and a unit of 2 bits for the other data bits, on the basis of the coded data generated by the redundant bit addition unit, to send the generated modulated wave signal,

wherein the redundant bit unit operates to select as a redundant bit to be added a bit being common to both symbol data located at a positive position and symbol data located at a negative position out of the Gray coded 4-level symbols, the positive position and the negative position being away in deviation furthest from each other.

14. (New) The transmission device according to claim 13, wherein each of the specific bits to be protected comprises flag data.

15. (New) The transmission device according to claim 13, wherein the supplied data includes bits for error check and the specific bits to be protected include the bits for error check.

16. (New) The transmission device according to claim 13, wherein the supplied data includes bits for error correction and the specific bits to be protected include the bits for error correction.

17. (New) The transmission device according to claim 13, wherein the number of the specific bits to be protected is less than the number of the other bits not to be protected.

18. (New) The transmission device according to claim 13, wherein the data protected to the redundant bit addition unit is data whose high and low significant levels are predetermined and the redundant bit addition unit operates to add the redundant bits to data having a higher significant level.

19. (New) The transmission device according to claim 13, wherein the supplied data represents a plurality of pieces of information, and the redundant bit addition unit operates for respective ones of the plurality of pieces of information to add the redundant bit data to each of the specific bits to be protected to generate the coded data.

20. (New) A reception device for receiving a signal which is obtained by adding a redundant bit of one bit to each of specific bits to be protected to generate coded data, the specific bits being selected out of supplied data and by modulating symbol data with 4-value FSK in accordance to a Gray code sequence, the symbol data being obtained as a unit of 2 bits consisting of each bit and its redundant bit for the specific bits to be protected and a unit of 2 bits for the other data bits, on the basis of the coded data generated, wherein the redundant bit to be added is a bit being common to both symbol data located at a positive position and symbol data located at a negative position out of

the Gray coded 4-level symbols, the positive position and the negative position being away in deviation furthest from each other, the reception device comprising:

- a demodulation unit for demodulating the received signal;
- a symbol decision unit for performing a symbol decision at each Nyquist interval for the demodulated received signal;
- a bit conversion unit for converting a symbol value obtained by the symbol decision performed by the symbol decision unit into a bit value; and
- a data recovery unit for composing a data string by deleting the added redundant bit from the data of the bit value converted by the bit conversion unit, to restore original data.

21. (New) The reception device according to claim 20, wherein the demodulation unit demodulates the received signal by converting the received signal into a signal of a voltage corresponding to a frequency of the received signal, and the symbol decision unit performs the symbol decision by comparing the voltage of the signal, which has been demodulated by the demodulation unit, with preset threshold values.

22. (New) The reception device according to claim 20, wherein the bit data generated by the bit conversion unit is data in which bits are arranged such that high and low of significance levels thereof are predetermined and the bit data having the high significance level is added with the redundant bit, and wherein the data recovery unit deletes the redundant bit added to the bit data having the high significance level.

23. (New) A method for transmitting data, the method comprising the steps of:
adding a redundant bit of one bit to each of specific bits to be protected to generate coded data, the specific bits being selected out of supplied data; and

generating a modulation wave signal by modulating symbol data with 4-value FSK in accordance to a Gray code sequence, the symbol data being obtained as a unit of 2 bits consisting of each bit and its redundant bit for the specific bits to be protected and a unit of 2 bits for the other data bits, on the basis of the coded data generated in the redundant bit adding step, to send the generated modulated wave signal,

wherein the redundant bit adding step performs selecting as a redundant bit to be added a bit being common to both symbol data located at a positive position and symbol data located at a negative position out of the Gray coded 4-level symbols, the positive position and the negative position being away in deviation furthest from each other.

24. (New) A method for receiving data, the method comprising the steps of:

receiving a signal which is obtained by adding a redundant bit of one bit to each of specific bits to be protected to generate coded data, the specific bits being selected out of supplied data and by modulating symbol data with 4-value FSK in accordance to a Gray code sequence, the symbol data being obtained as a unit of 2 bits consisting of each bit and its redundant bit for the specific bits to be protected and a unit of 2 bits for the other data bits, on the basis of the coded data generated, wherein the redundant bit to be added is a bit being common to both symbol data located at a positive position and symbol data located at a negative position out of the Gray coded 4-level symbols, the positive position and the negative position being away in deviation furthest from each other;

demodulating the received signal;

performing a symbol decision at each Nyquist interval for the demodulated received signal;

converting a symbol value obtained by the symbol decision performed in the symbol deciding step into a bit value; and

composing a data string by deleting the added redundant bit from the data of the bit value converted in the bit converting step, to restore original data.